

REMARKS

Reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks is respectfully requested. By this Amendment, claim 1 is amended, and new claims 22 and 23 are added. Accordingly, claims 1, 3-5, 7-16 and 20-23 are pending in this application.

At the outset, Applicant gratefully acknowledges the indication that claims 9-16 are allowed.

Furthermore, based upon the amendment to claim 12, Applicant respectfully traverses the rejection of claims 1, 3-5, 7, 8, 20 and 21 as obvious under 35 U.S.C. §103(a) over AAPA (Applicant's admitted prior art) in view of one or more of Li et al. (US 7,282,841) and Lowery (US 6,504,301). As amended, claim 12 is believed to be patentable over the applied art for the failure of the applied art to disclose, teach or suggest all of Applicant's recited claim features.

Claim 1 recites, *inter alia*, a circuit board and a base of high heat conductivity, "wherein the circuit board is disposed on the base...." The Examiner asserts that the phrase "provided on" is functional language, is given very little patentable weight, and therefore is disclosed or suggested by the base top surface 103 and circuit board 106 of AAPA (Fig. 1). Notwithstanding the fact that the amendment filed October 10, 2007 replaced the term "provided on" with "disposed on," it would appear that the Examiner posits that the word "on" can be broadly interpreted as "under," for the Examiner's assertion to be valid. Applicant respectfully disagrees and requests that the Examiner use the commonly accepted meaning of the term "on."

AAPA (Fig. 1) clearly depicts wherein circuit board 106 is between the bottom surface of base 103 and heat sink 113, whereas the instant invention clearly discloses and the claims sufficiently recites wherein the circuit board is mounted at another location, e.g. "on the base." Applicant respectfully submits that that there is no interpretation of claim 1, either broad or narrow, that would suggest that base 103 lies anywhere else but between circuit board 106 and heat sink 113. Applicant therefore submits that the term "disposed on" sufficiently describes the positional relationship between base 103, circuit board 106, and heat sink 113 so as to be distinguished over AAPA.

Still regarding claim 1, the Examiner admits that AAPA fails to disclose that a screw mechanically connects a heat sink to a bottom surface of the base metal 103 of AAPA Fig. 1. The Examiner relies upon Li to remedy the deficiencies of AAPA. Based upon the amendments to claim 1, Applicant respectfully disagrees.

The Examiner asserts that Li discloses wherein a screw mechanically connects a heat sink 28 top a bottom surface of the base metal (23, 231 and 233), and that it would be obvious to substitute the base, screw an heat sink of Li for the base, connector and heat sink assembly of AAPA's Fig. 1 to render as obvious the recited connection between the base and the heat sink. Applicant respectfully disagrees.

According to Li, the LED chip 241 is mounted on the front ends of heat sink 24 (corresponding to the metal base in present invention), and heat sink 24 is mounted on heat-conduction base 23 which has screw thread 231. Heat-conduction base 23 is connected to infrared light base 22, and infrared light base 22 is connected to a heat radiator via a screw thread.

As amended, claim 1 recites, *inter alia*, “wherein said base is metal, the base and a screw or screw hole on a bottom surface of the base form an integrated structure, and a screw mechanically connects a heat sink is mechanically and directly connected to the—a bottom surface of the metal base via said screw or screw hole.” Applicant submits that the recited structure is distinguished from Li, having improved heat conduction that allows the use of larger power LED chips. Furthermore, because fewer components are used, the connection structure is simplified, material and production costs are reduced, and stability and reliability are enhanced.

Based upon the above, Applicant respectfully submits that claim 1 is at least patentable over the asserted combination of references due to the failure of AAPA in view of Li to disclose, teach or motivate all recited features of the claims. Claims 3-5 and 7-8 depend from independent claim 1 and are likewise patentable over the asserted combination of references for at least their dependence on an allowable base claim, as well as for the additional features they recite. Accordingly, withdrawal of this rejection is respectfully requested.

Furthermore, notwithstanding the patentability of claim 1 due to the sufficiency of the phrase “wherein the circuit board is disposed on the base,” to distinguish over AAPA, new claims

22 and 23 provide further detail regarding the relative position of the recited circuit board, the base, and the heat sink. Support for these claims is provided at least by the embodiments depicted in Figs. 2-5.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3-5, 7-8 and 20-23, in addition to the already allowed claims 9-16, are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN HAM & BERNER, LLP

Benjamin J. Hauptman
Registration No. 29,310

1700 Diagonal Road, Suite 300
Alexandria, Virginia 22314

(703) 684-1111

(703) 518-5499 Facsimile

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